

### 2.2.3.5 Northern Highlands Ecological Landscape

#### General Description

The Northern Highlands Ecological Landscape is located in northern central Wisconsin (Figure 2-15). It is known for its pitted outwash plains and kettle lakes mixed with extensive forests and large peatlands. Its landforms are characterized mainly by pitted outwash but also contain some coarse-textured moraines. Soils are acidic and relatively unproductive due to low moisture-holding capacity and lack of organic matter.

#### Vegetation

Historically, this was Wisconsin's greatest pinery. White and red pine forests largely dominated the vegetation, with some smaller pockets of jack pine. On the more mesic soils, hemlock-hardwood forests were common. Aspen-birch forests occurred in openings formed by disturbance events such as wind or fire.

Current forest vegetation is primarily aspen, with some white, red and jack pine in both natural and plantation form (Figure 2-16). Northern hardwood forests, though reduced in extent, still occur on the more mesic soils. Lowland conifer occupies the many peatlands that are scattered throughout the Ecological Landscape.

#### Hydrologic Features

The Northern Highlands is known for having one of the highest concentrations of kettle lakes in the world. The kettles were formed as glaciers melted, when large ice blocks became stranded and outwash materials were deposited over them. As the ice blocks slowly melted and collapsed, kettles were formed. Lakes developed in portions of kettles that were below the level of ground water. The sandy bottoms and shorelines of these lakes make them some of the most desirable areas for water recreation in the state. The Wisconsin and Manitowish are the two main rivers that run through the Ecological Landscape. Wetland types in this area such as open bog, fen, and wild rice marsh contain rare flora and fauna. Watershed pollution is about average for the state according to Wisconsin DNR.

#### Land Use

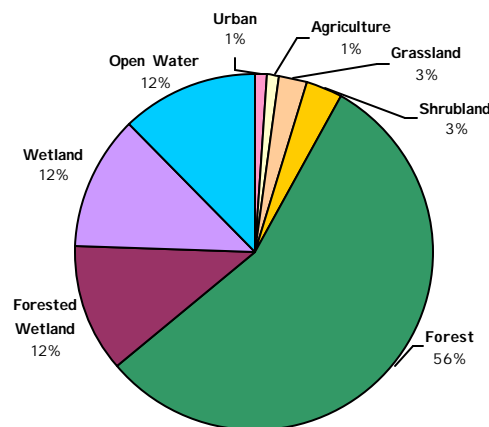
The Northern Highland Ecological Landscape comprises approximately 1.4 million acres of which 64% is forested. Almost 30% of the land is in public ownership (Figure 2-17), including the Northern Highland-American Legion State Forest.

#### Socioeconomics

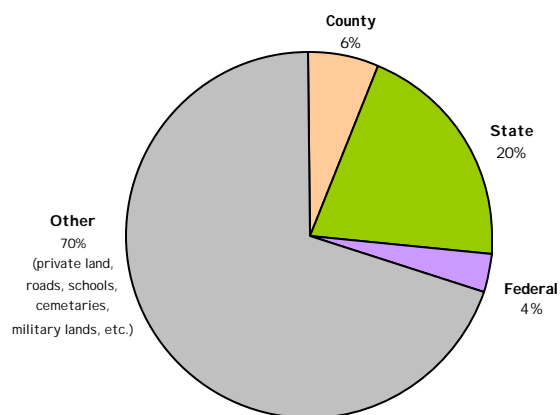
Socioeconomic data are summarized based on county-level approximations of the Ecological Landscape (referred to as a "region"). Economic data are available only on a political unit basis with counties as the smallest unit. The counties included in this socioeconomic region are Iron, Oneida, and Vilas (Northern Highland Region).



**Figure 2-15. Northern Highlands Ecological Landscape.**



**Figure 2-16. Current land cover in the Northern Highland Ecological Landscape**



**Figure 2-17. Public land ownership in the Northern Highland Ecological Landscape**

As is common in northern Wisconsin, the timber industry is extremely important in local economies. Much of the land is used for timber and pulp production, made possible by the availability of public land and the ownership of 17% of the timberland by the forest industry. Recreation is also significant in the region, as is typical in northern Wisconsin. Agriculture productivity is low for most crops due to the short growing season and poor quality soils.

The population density of the Northern Highland Region (59 persons/mi<sup>2</sup>) is about two-thirds that of the state as a whole (96 persons/mi<sup>2</sup>), and its economy is below average. Per capita income for the region is lower than statewide, although it has been increasing for the region. The service sector employed the most people. The regional poverty rates for all people and for children under age 18 were higher than for the state as a whole. The Northern Highland counties each had higher unemployment rates than the state average. Iron, Oneida, and Vilas counties are all service-dependent.

### Management Opportunities

- This Ecological Landscape has an abundance of kettle lakes in a forested setting, making it an important area for rare species and wildlife, as well as recreation and tourism. Conflicts exist among competing uses.
- Restoration of dry forest types that are currently aspen or monotypic plantations and conversion to predominately white and red pine.
- Restoration and protection of hemlock-hardwood forest.
- Maintenance of bracken grasslands by prescribed burning.
- Protection of rare biota including calypso orchid (*Calypso bulbosa*), shore sedge (*Carex lenticularis*), red-shouldered hawk (*Buteo lineatus*), yellow rail (*Coturnicops noveboracensis*), and many other species. This Ecological Landscape also harbors a large proportion of rare aquatic and wetland species.
- Continued management emphasis on uncommon, sensitive animals associated with water -- bald eagle, osprey, common loon, and black tern.
- Protection and management of remaining wild lakeshores, wild rice lakes and streams, and extensive peatlands that are under pressure from development.
- The strategic location of this Ecological Landscape within northern Wisconsin provides potential for linking extensive forests to the north, east, and west, and protecting the headwaters and upper portions of our largest river, the Wisconsin.

### Natural Communities

The following table (Table 2-7) lists the natural communities occurring in the Northern Highlands arranged by the level of opportunity to sustain and manage the community type in this Ecological Landscape. For further explanation of natural communities and opportunities to sustain them, see Section 3.3.

**Table 2-7. Natural communities occurring in the Northern Highlands arranged by the level of opportunity to sustain and manage the natural community type in this Ecological Landscape.**

Major Opportunity	Important Opportunity	Present
Northern Dry-Mesic Forest	Northern Dry Forest	Boreal Forest
Northern Wet Forest	Northern Hardwood Swamp	Floodplain Forest
Emergent Aquatic	Northern Mesic Forest	Pine Barrens
Emergent Aquatic-Wild Rice	Northern Wet-Mesic Forest	Bedrock Glade
Submergent Aquatic	Bracken Grassland	
Submergent Aquatic-Oligotrophic Marsh	Alder Thicket	
	Boreal Rich Fen	
Northern Sedge Meadow	Ephemeral Pond	
Open Bog	Shrub Carr	
	Inland Beach	